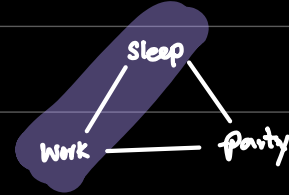
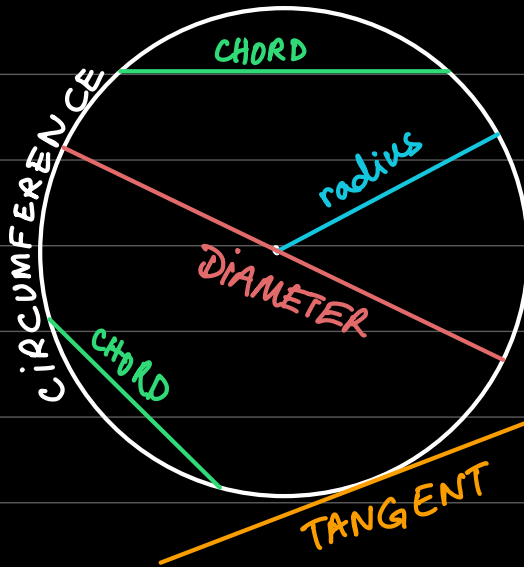
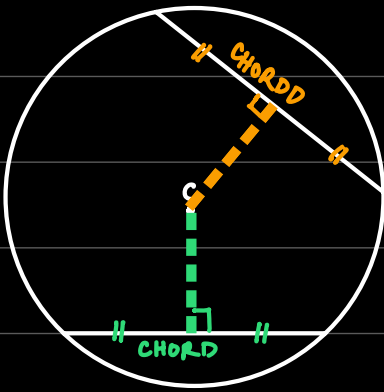


CIRCLES (P1) (4-5 Marks)

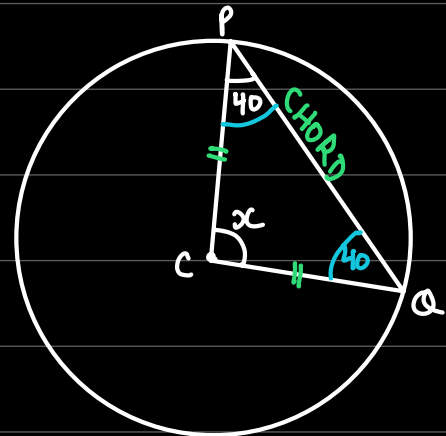
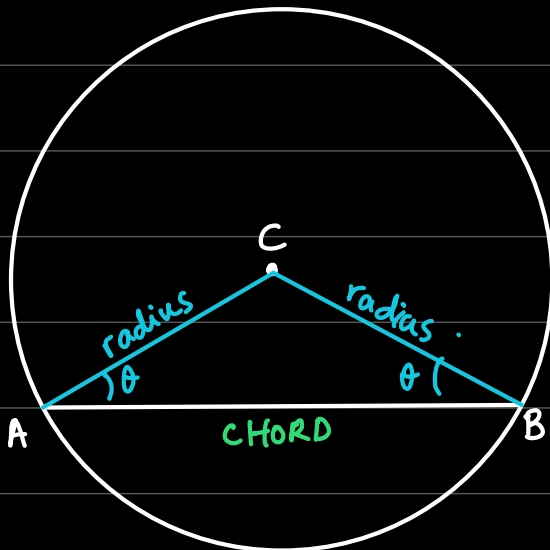
CHORD: Any line that touches the circle at two points.



1 90° MADE FROM CENTRE ON A CHORD CUTS THE CHORD IN TWO EQUAL HALVES.



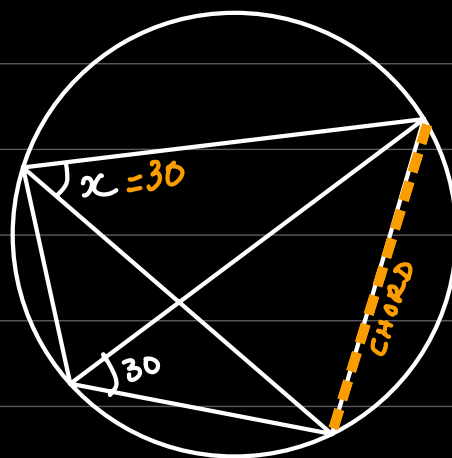
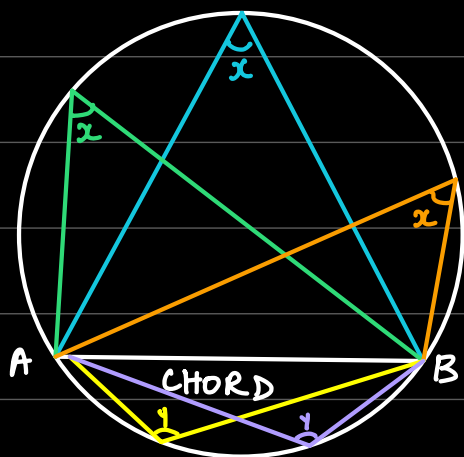
V.IMP 2 IF WE JOIN ENDS OF A CHORD TO CENTRE, IT MAKES AN ISOSCELES



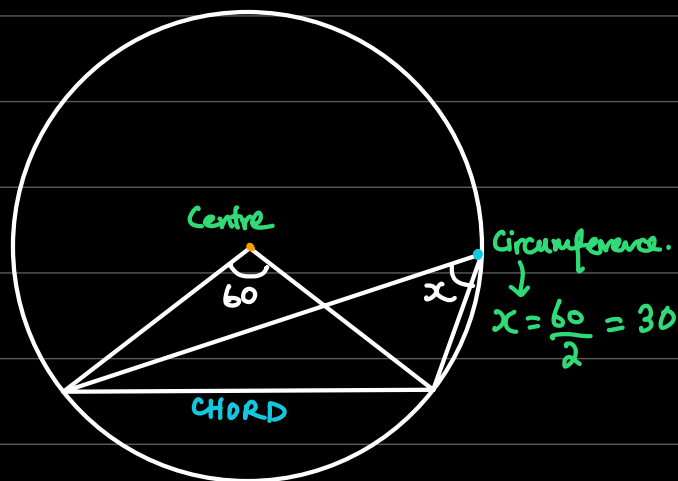
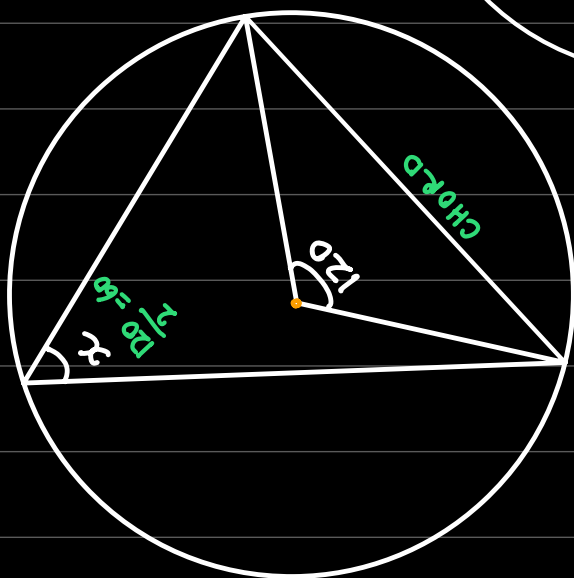
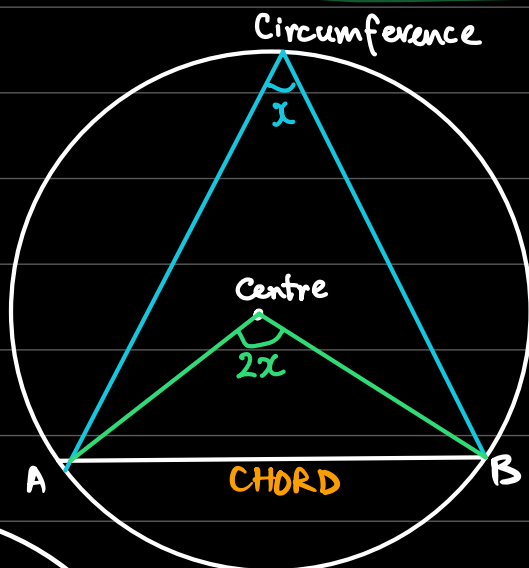
$$x + 40 + 40 = 180$$

$$x = 100$$

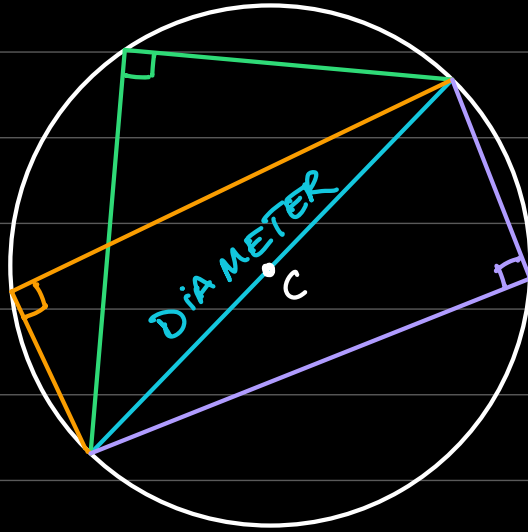
3 ANGLE MADE ON CIRCUMFERENCE STARTING FROM ENDS OF SAME CHORD ARE ALWAYS EQUAL.



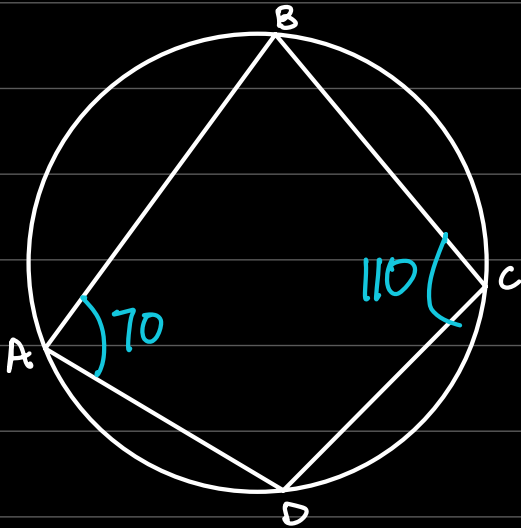
4 ANGLE MADE ON CENTRE IS DOUBLE THE ANGLE MADE ON CIRCUMFERENCE IF THEY START FROM SAME CHORD.



~~Imp~~ 5 ANGLE MADE AT CIRCUMFERENCE STARTING FROM ENDS OF DIAMETER IS ALWAYS 90° .



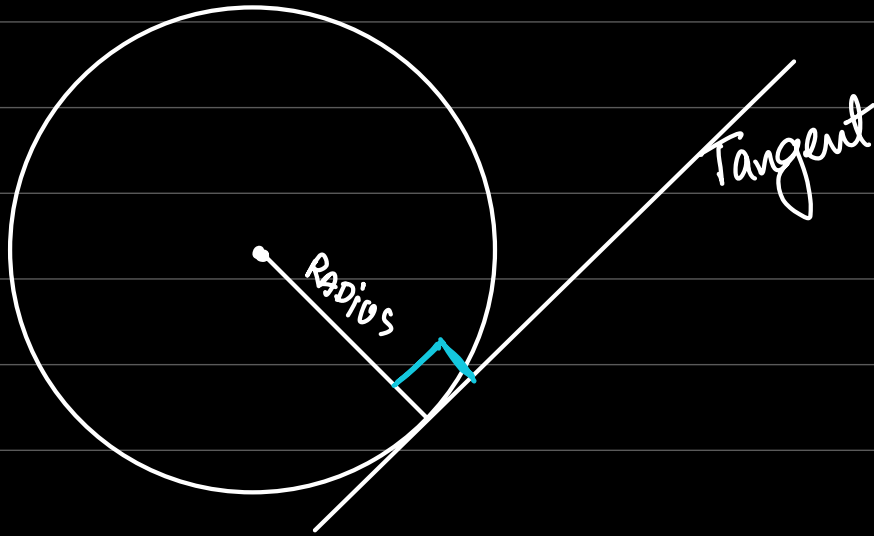
6 CYCLIC QUADRILATERAL.



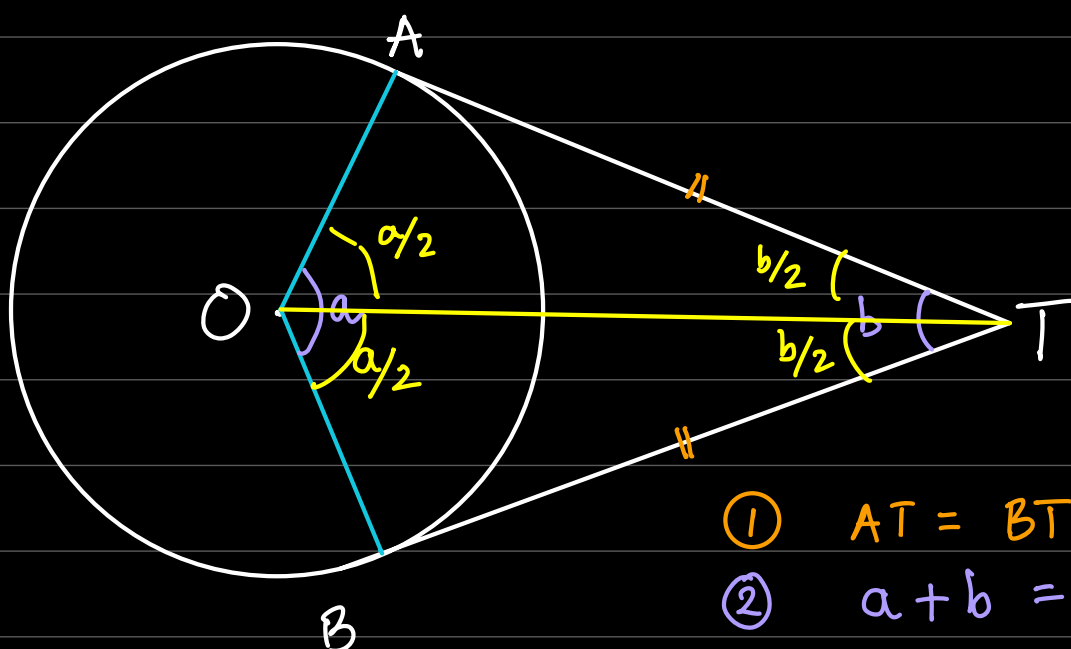
$$A + C = 180$$

$$B + D = 180$$

~~Imp~~ 7 ANGLE BETWEEN RADIUS & TANGENT IS ALWAYS 90°



8 TANGENT KITE



① $AT = BT$

② $a + b = 180$

③ If we cut tangent Kite in half, the angles are divided by 2 as well.

EXAM QUESTION RULES

DO NOT READ THE REQUIRED ANGLES.

COMPLSORY
STEPS

- 1- MARK ALL RADIUS (ISOSCELES) Rule 2
- 2- 90° made by DIAMETER Rule 5
- 3- 90° made by RADIUS & TANGENT Rule 7

4- CHORD PROPERTIES

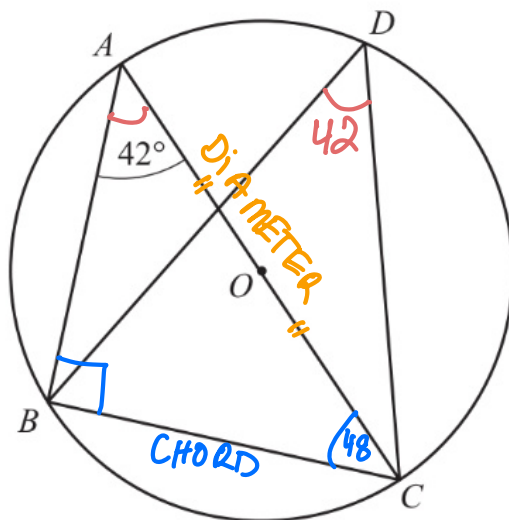
5- CYCLIC QUADRILATORAL.

6

 $\triangle ABC$

$$90 + 42 + C = 180$$

$$C = 48$$



The diagram shows a circle, centre O , passing through A , B , C and D . AOC is a straight line and $\hat{BAC} = 42^\circ$.

Find

(a) $\hat{BDC} = 42$

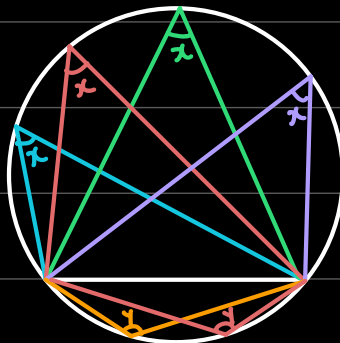
(b) $\hat{ABC} = 90$

(c) $\hat{ACB} = 48$

Answer (a) $\hat{BDC} = \dots\dots\dots[1]$

(b) $\hat{ABC} = \dots\dots\dots[1]$

(c) $\hat{ACB} = \dots\dots\dots[1]$



ANGLES IN SAME SEGMENT

Angle made at
circumference starting
from same chord
are EQUAL.

- 12 In the diagram, the points A, B, C and D lie on the circle, centre O .

$$\hat{BAD} = 47^\circ$$

$\triangle OBD$

$$94 + x + x = 180$$

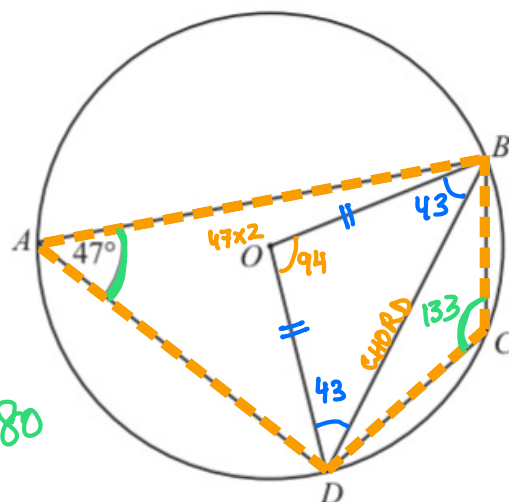
$$2x = 86$$

$$x = 43$$

Find

(a) $\hat{BOD}$,

Cyclic: $47 + C = 180$
 $C = 133$



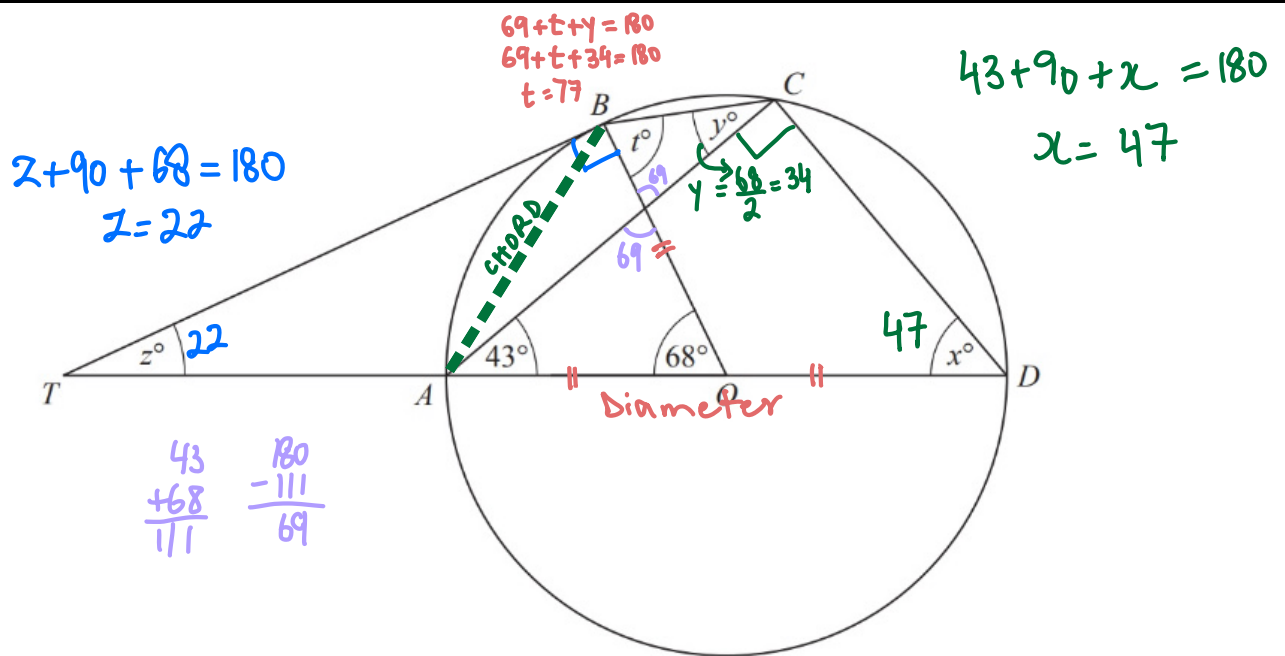
Answer $\hat{BOD} = 94$ [1]

(b) $\hat{BCD}$,

Answer $\hat{BCD} = 133$ [1]

(c) $\hat{OBD}$.

Answer $\hat{OBD} = 43$ [1]



In the diagram, A , B , C and D lie on the circle, centre O .
 AD is a diameter.

The tangent to the circle at B meets the line DA produced at T .

$\angle AOB = 68^\circ$ and $\angle CAO = 43^\circ$.

(a) Find x .

Answer $x = \dots\dots\dots$ [1]

(b) Find y .

Answer $y = \dots\dots\dots$ [1]

(c) Find z .

Answer $z = \dots\dots\dots$ [1]

(d) Find t .

Answer $t = \dots\dots\dots$ [1]



WHEN YOU FIND TWO ANGLES
STARTING FROM SAME
POINTS ON CIRCLE, THAT
IS WHEN YOU NEED TO DRAW
A NEW CHORD

Sunday 3-5pm { 1h - Limits of accuracy
1h - Standard Form

Sat } vectors.
Sun }

→ IGCSE only days after that.